In re Application of: Benjamin GEIGER
Serial No.: 10/524,275
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Examiner: Karen C. CARLSON
Group Art Unit: 1656
Attorney Docket: 29140

REMARKS

Before the amendments made herein, claims 16-22 and 42-61 were pending. Claims 43, 46 and 52-61 have been cancelled herewith without prejudice. In addition, claims 62 and 63 have been added.

Accordingly, after the amendments made herein are entered, claims 16-22, 42, 44, 45, 47-51, 62 and 63 will be pending.

35 U.S.C. §112 Rejection, Second Paragraph

Claims 16-22 and 42-61 have been rejected under 35 U.S.C. §112, second paragraph, for failing to distinctly claim the subject matter which the applicant regards as the invention.

Specifically, claim 16, has been rejected for using unclear terms such as "provide" and "expose an organism". Claim 16 has also been rejected for including a "virus" which does not comprise a cell compartment. In addition, claim 16 has been rejected for claiming a method of highlighting when, as the Examiner points out, it is clear that when the cell compartment or macromolecule is absent, no highlighting can take place.

The Examiner's rejections are respectively traversed. In order to further clarify claim 16, it has now been amended such that the terms objected to by the Examiner have been removed and replaced by other terms each of which are fully supported in the instant application, thus no issue of new matter arises.

Thus, the term "highlighting" has been replaced by "detecting".

The term "providing" has been replaced by "expressing".

Claim 16 has now been amended such that it is limited to detecting macromolecules/cell compartments in cells and not in organisms including virus, as such all rejections regarding virus and organisms are rendered moot.

Also added to the claim is the phrase "wherein a presence of said detectable molecule is indicative of the compartment of the cell, or macromolecule of the cell". Such a phrase indicates that when there is no detection of the detectable molecule, this indicates that the compartment/macromolecule is absent. Although no literal support for

his phrase exists in the instant specification, it may be inferred from sentences such as: "*Thus the highlighting method of the present invention can be utilized to determine the presence or absence of a specific cell compartment* ....." Page 17, lines 28-29.

Claims 17, 18 and 19 have been amended so as to comply with claim 16. No new matter has been added.

In addition, the term "providing" has been replaced by the term "transfecting" for the sake of clarity. Support for the term "transfecting" can be found in the instant specification – see for example Page 22, lines 19-25.

Claim 44 and dependents thereof have been amended in a similar way to claim 16 and dependents thereof. Claim 52 has been cancelled, rendering moot Examiner's objections.

In view of the above amendments, Applicant believes to have overcome 35 U.S.C. §112, second paragraph rejections.

35 U.S.C. §112 Rejection, First Paragraph

Claims 16-22 and 42-61 have been rejected under 35 U.S.C. §112, first paragraph, for not being enabling for all macromolecules or cell components.

The Examinerss rejections are respectively traversed.

As explained in the response to the Office Action dated March 7, 2007, the instant specification provides ample guidance how to carry out the claimed invention for detecting the mitochondrion of a mouse (see pages 11-13 of said response). Adapting the invention to detect other cell components and/or macromolecules is effected by exchanging the second polypeptide region for another. No further experimentation is necessary to devise which second polypeptide regions to use as a list is provided in the specification indicating which second polypeptide to use in order to detect a particular cell component.

New claims 62 and 63 have now been added to restrict the domain of the second polypeptide to only ones which has been supported in the instant specification – see page 11, line 23 through page 14, line 7.

In order to expedite prosecution of this case, the claims have now been limited to a method of detecting a cell component/macromolecule in a cell as opposed to in an organism. Thus all issues regarding enablement for detecting a cell component/macromolecule in an organism are now moot.

35 U.S.C. §102 Rejection

The Examiner has rejected claims 16-22, 44, 45, 47-53 and 55-61 under 35 U.S.C. §102(b) as being anticipated by Xu et al. (1998, "A Bioluminescence Resonance Energy Transfer (BRET) System: Application to Interacting Circadian Clock Proteins," PNAS, January 5, 1999, 96(1): 151-156, USA).

The Examiner states that Xu et al. teach fusion constructs of kaiB to EYFP and Rluc and measured bioluminescence emission spectra following addition of coelenterazine.

Examiner's objections are traversed. The method of Xu et al. teaches detection of a macromolecule (polypeptide) that comprises an artificial fluorophore. As such, the method of Xu et al. cannot detect macromolecules that are endogenous to the cell since the fluorophore is a prerequisite for detection. Please note that claim 16 has now been amended to limit the detected macromolecules to those that are "of the cell" – i.e. endogenous to the cell.

Further, Xu et al. does not teach detection of a cell compartment, by localizing his polypeptide to a specific area. The polypeptides of Xu et al. may be anywhere in the cell, as long as they are capable of interacting one with the other.

Thus, clearly Xu et al. cannot be used to anticipate the method of the present invention.

In view of the above amendments and remarks it is respectfully submitted that claims 16-22, 42, 44, 45, 47-51, 62 and 63 are now in condition for allowance. Prompt notice of allowance is respectfully and earnestly solicited.

Respectfully submitted,

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Enclosures:

- Request for Continued Examination (RCE); and
- Petition for Extension of Time (2 months)